

### AMENDMENTS TO THE CLAIMS

Please amend the Claims as follows.

1. (Currently Amended) A device comprising a pump arrangement, at least one venous catheter, and at least one arterial catheter, for establishing and maintaining an artificial circulation in a target area of a human or animal body, said artificial circulation being isolated from the blood circulation of the systemic body, wherein the device further comprises first means an oxygenator with an analysis gas delivery line into which an analysis gas can be introduced for feeding an the analysis gas into said artificial circulation, and second means at least one gas sensor for the analysis gas for monitoring whether a blood exchange takes place between said artificial circulation and said systemic circulation and wherein the gas sensor is arranged in an air outlet line of the oxygenator.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently Amended) The device according to claim 3 1, wherein said gas sensor is arranged in a respiratory mask for the air exhaled from the body.

6. (Currently Amended) The device according to claim 3 1, wherein said gas sensor is arranged in said artificial circulation.

7. (Cancelled)

8. (Currently Amended) The device according to claim 7 1, wherein a further gas sensor is provided which is arranged in the analysis gas delivery line.

9. (Currently Amended) The device according to claim 3 1, wherein a control unit is provided which is connected to said at least one gas sensor and to said pump arrangement, for switching off said artificial circulation in the event of a blood exchange between said artificial circulation and said systemic circulation.

10. (Previously Presented) The device according to claim 8, further comprising a control unit connected to the further gas sensor.

11. (Currently Amended) The device according to claim 3 1, wherein said analysis gas comprises laughing gas ( $N_2O$ ), and said at least one gas sensor comprises an  $N_2O$  sensor.

12. (Original) The device according to claim 8, wherein said analysis gas comprises laughing gas ( $N_2O$ ), and said further gas sensor comprises an  $N_2O$  sensor.

13. (Original) The device according to claim 11, wherein said at least one gas sensor has an  $N_2O$  sensitivity of 1 to 1000 ppm.

14. (Original) The device according to claim 12, wherein said further gas sensor has an  $N_2O$  sensitivity of 1 to 1000 ppm.

15. (Cancelled)

16. (Cancelled)

17. (Original) A device comprising a pump arrangement, at least one venous catheter, and at least one arterial catheter, for establishing and maintaining an artificial circulation in a target area of a human or animal body, said artificial circulation being isolated from the systemic blood circulation of the body, further comprising first means for feeding an analysis gas into said artificial circulation, and second means for monitoring whether said analysis gas passes from said artificial circulation into said systemic circulation, said first means comprising an oxygenator with a gas delivery line into which said analysis gas can be introduced, and said second means comprising a gas sensor arranged in an air outlet line of said oxygenator.

18. - 33. (Cancelled)